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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,919	01/08/2007	Mats Gustafsson	05822.0336USWO	5539
23552 7590 09/25/2009 MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903				
EXAMINER				
HANSEN, JONATHAN M				
ART UNIT		PAPER NUMBER		
2886				
MAIL DATE		DELIVERY MODE		
09/25/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/574,919

Applicant(s)

GUSTAFSSON ET AL.

Examiner

JONATHAN M. HANSEN

Art Unit

2886

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4 and 6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4 and 6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 20, 2009 has been entered.

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims **1, 2, and 4-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over **US Publication 2005/0046858 to Hanson et al**, in view of **US Patent 4,989,978 to Groner**.

In regards to claim **1**, Hanson discloses and shows in Figures 4B and 6, an apparatus and method of determining the refractive index of an object compared to a refractive index of a surrounding medium, wherein:

exposing said object to a laser object beam and letting the object beam interfere with a laser reference beam, wherein said laser object beam and said laser reference beam have the same wavelength (par. 40);

detecting said interference by forming a hologram (par. 40),

analyzing the hologram for phase information (par. 44);

wherein said object comprises particles of a first substance having a first refractive index (N2) and a second substance having a second refractive index (N3) and a medium having a refractive index (N1) between said first and second refractive indices (par. 49); and wherein

said computer recovers phase and amplitude data of the substances present in the object (par. 33).

Hanson further discloses the specific use of the apparatus to examine biological samples, wherein biological specimens are described as having indices of refraction that vary greatly between key elements of the specimen (par. 58, ll. 26-33).

Hanson differs from the limitations in that he is silent to the method further comprising: counting the number of particles having a first refractive index and counting the number of particles having a second refractive index in a specific area of said object, and separating particles in a particle blend and counting particles in a particle blend and/or calculating the volume ratio between particles in a particle blend.

However, Groner teaches a method and apparatus for determining a count per unit volume of red blood cells within a suspension fluid, wherein red blood cells and air bubbles are counted and separated according to different refractive indices (col. 1, ll. 45-65 and col. 2, ll. 14-19). Further, flow cytometry is a well-known method for counting and separating particles of a sample.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hanson to include counting and separating particles according to refractive index for the advantage of providing an accurate count per unit volume of the desired particle, as taught by Groner.

In regards to claim **2**, Hanson discloses the method, wherein the step of analyzing and the step of determining are performed by a computer (par. 58 and 81).

In regards to claim **4**, Hanson discloses and shows in Figure 6, a device for determining the refractive index of an object compared to a refractive index of a surrounding medium, said device comprising:

a laser (610) for exposing said object (630) to a laser object beam and letting the object beam interfere with a laser reference beam, wherein said laser object beam and said laser reference beam have the same wavelength (par. 62 and 63);

a CCD (660) (applicant's detector) for detecting said interference by forming a hologram (par. 30);

a desktop computer (par. 58, ll. 23-26) (applicant's computer) for analyzing the hologram for phase information (par. 33, 44, 47 and 78).

In regards to claim **6**, Hanson discloses a computer program arranged on a computer readable medium for execution on a computer, the computer program including instructions which, when executed, perform the method (par. 81).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JONATHAN M. HANSEN whose telephone number is

(571)270-1736. The examiner can normally be reached on Monday through Friday 9:30AM to 6:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tarifur Chowdhury can be reached on 571-272-2287. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMH 09/22/2009

/TARIFUR R CHOWDHURY/
Supervisory Patent Examiner, Art Unit 2886